

ABSTRACT

METHOD FOR JOINING METALS AND DEVICE PRODUCED THEREBY

A method joins metals together through a simple process, with the joined portions exhibiting low thermal resistance without occurrence of corrosion. The metals are selected from among aluminum, an aluminum alloy, copper and a copper alloy. A solder paste that contains Sn and Zn is applied to a metal to be joined. Another metal is placed on the portion of the metal coated with the solder paste. The applied solder paste is caused to reflow. The solder paste contains as flux at least one component selected from among organic acid esters and ester decomposition catalysts, and an organic halogen compound. The ester decomposition catalyst is an organic base hydrohalogenated acid salt. The organic halogen compound includes brominated benzyl compounds and polybrominated compounds. The brominated benzyl compound contains a substituent having an alkyl chain with 10 or more carbon atoms. The polybrominated compound includes polybrominated fatty acid compounds with 10 or more carbon atoms that contain four or more bromine atoms in one molecule thereof or polybrominated alicyclic compounds with 10 or more carbon atoms that contain four or more bromine atoms in one molecule thereof.

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